

CLAIMS

What is claimed is:

- 1 1. A geographical location communication system comprising:
2 a plurality of references, each having reference positional data;
3 a mobile unit within a region covered by a reference, the mobile unit capable of
4 determining the geographical location (geo-location) of the mobile unit; and
5 a locator to receive compressed geo-location data of the mobile unit and to
6 determine the geo-location of the mobile unit by comparing the compressed geo-location
7 data against the reference positional data of the reference covering said region.
- 1 2. A system of claim 1, wherein the mobile unit determines the geo-location
2 using a Global Position System.
- 1 3. A system of claim 1, wherein the compressed geo-location data is in units of
2 latitude and longitude.
- 1 4. A system of claim 3, wherein the compressed geo-location data includes at
2 most one least significant degree digit of the latitude and at most two least significant
3 degree digits of the longitude.
- 1 5. A system of claim 4, wherein the locator determines the most significant
2 degree digit of the latitude and at least the most significant degree digit of the longitude.
- 1 6. A method for communicating geographical location comprising:

2 establishing a plurality of references, each having reference positional data and an
 3 identification (ID) code;
 4 determining the geographical location (geo-location) of a mobile unit operating in a
 5 region;
 6 receiving a compressed geo-location data of the mobile unit and a reference data of
 7 a reference covering said region; and
 8 recovering the geo-location of the mobile unit by comparing the compressed geo-
 9 location data against a reference positional data, said reference positional data obtained
 10 from the received reference data.

1 7. A method of claim 6, wherein determining the geo-location of the mobile
 2 unit using a Global Position System.

1 8. A method of claim 6, wherein the compressed geo-location data is in units of
 2 latitude and longitude.

1 9. A method of claim 8, wherein the compressed geo-location data includes at
 2 most one least significant degree digit of the latitude and at most two least significant
 3 degree digits of the longitude.

1 10. A method of claim 9, wherein recovering the most significant degree digit of
 2 the latitude and at least the most significant degree digit of the longitude.

1 11. A cellular network comprising:
 2 a plurality of cellular systems, each having reference positional data;
 3 a mobile unit within a region covered by a cellular system, the mobile unit capable
 4 of determining the geographical location (geo-location) of the mobile unit; and

5 an application service provider (ASP) to receive compressed geo-location data of the
6 mobile unit and to determine the geo-location of the mobile unit by comparing the
7 compressed geo-location data against the reference positional data of the reference covering
8 said region.

1 12. A network of claim 11, wherein the mobile unit determines the geo-location
2 using a Global Position System.

1 13. A network of claim 11, wherein the compressed geo-location data is in units
2 of latitude and longitude.

1 14. A network of claim 13, wherein the compressed geo-location data includes at
2 most one least significant degree digit of the latitude and at most two least significant
3 degree digits of the longitude.

1 15. A network of claim 14, wherein the ASP determines the most significant
2 degree digit of the latitude and at least the most significant degree digit of the longitude.

1 16. A method for communicating geographical location in a cellular network
2 comprising:

3 determining the geographical location (geo-location) of a mobile unit operating in a
4 region;

5 receiving a compressed geo-location data of the mobile unit and an identification
6 code corresponding to a cellular system covering said region;

7 recovering the geo-location of the mobile unit by comparing the compressed geo-
8 location data against a reference positional data, said reference positional data obtained
9 from the received identification code.

1 17. A method of claim 16, wherein the identification code is a system
2 identification code of the cellular system covering said region.

1 18. A method of claim 16, wherein the identification code is one of a cell cite, a
2 point code of a home location register, a point code of a visiting location register or a point
3 code of a mobile switch center.

1 19. A method of claim 16, wherein determining the geo-location of the mobile
2 unit using a Global Position System.

1 20. A method of claim 16, wherein the compressed geo-location data is in units
2 of latitude and longitude.

1 21. A method of claim 20, wherein the compressed geo-location data includes
2 one least significant degree digit of the latitude and at most two least significant degree
3 digits of the longitude.

1 22. A method of claim 21, wherein recovering the most significant degree digit
2 of the latitude and at least the most significant degree digit of the longitude.

1 23. A mobile asset tracking system comprising:
2 a plurality of geographical references, each having reference positional data;
3 a mobile asset installed with a mobile unit operating in a region covered by a
4 geographical reference, the mobile unit to determine the geographical location (geo-
5 location) of the mobile asset and to report a compressed geo-location data of the mobile
6 asset; and

7 a locator to receive the compressed geo-location data of the mobile unit and to
8 determine the geo-location of the mobile asset by comparing the compressed geo-location
9 data against a reference positional data of the reference covering said region.

1 24. A system of claim 23, wherein the mobile unit determines the geo-location
2 using a Global Position System.

1 25. A system of claim 23, wherein the compressed geo-location data is in units
2 of latitude and longitude.

1 26. A system of claim 25, wherein the compressed geo-location data includes at
2 most one least significant degree digit of the latitude and at most two least significant
3 degree digits of the longitude.

1 27. A system of claim 26, wherein the locator determines the most significant
2 degree digit of the latitude and at least the most significant degree digit of the longitude.

1 28. A system of claim 23, wherein the compressed geo-location data is
2 transmitted through a cellular network.